



# Makes Perfect Scents – Olfactory Experiences in Autonomous Vehicles

## Open Bachelor/Master Thesis

### Background

Scents can be effectively deployed within the sealed vehicle space, e.g., by the air conditioning or spatially distributed scent boxes. Nice-smelling scents can be used to create a well-being ambiance or specific scents can convey a message to the passengers. In an autonomous vehicle, such scents may be used to, e.g., create a sense of emergency in a planned takeover situation, mitigate motion sickness symptoms, or signalize the current automation state, where a pleasant smell may mean that everything is working. Still, such olfactory experiences should be evaluated regarding their usability to ensure that, e.g., passengers understand an olfactory message, or whether they are annoyed by the smell.

### Research Goal

This thesis aims to investigate how olfactory devices can be (non-invasively) utilized within autonomous vehicles. A related work research should be conducted, and interdisciplinary approaches should be considered. A prototype should be designed and implemented that investigates these aspects. Finally, the defined hypothesis should be evaluated by conducting a study.

Based on bachelor/master level the scope is adapted.

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Images:

<https://www.autonews.com/article/20180714/OEM06/180719876/adding-scents-to-prevent-carsickness>

<https://blog.hgregoire.com/en/little-story-of-the-tree-car-freshener>